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A SURVEY

OF THE

EDUCATIONAL METHODS

OF

THE HOTCHKISS SCHOOL

JULIUS SACHS

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FOREWORD

The Trustees and Headmaster of the Hotchkiss School, desiring an expert and unprejudiced judgment on the educational methods employed at the school, requested Dr. Julius Sachs, formerly Professor of Secondary Education, Teachers College, Columbia University, to make such survey, giving him a free hand to go into any and every thing he might desire for such examination, in order that they might adopt any suggestions calculated to increase the usefulness and efficiency of the institution.

His report was intended for the guidance of the Trustees and the Faculty, and was not written for publication. But it is so far-reaching in its scope, so illuminating in its treatment of some educational problems, and so impartial in its judgment, that it is privately printed by order of the Trustees for the information of Patrons.

HON. MORRIS W. SEYMOUR, LL.D.,

President of the Board of Trustees of the Hotchkiss School.

My dear Judge Seymour:

In answer to your invitation and that of Dr. H. G. Buehler, Headmaster of the Hotchkiss School, I have undertaken an extended visit to the Hotchkiss School, and herewith submit my report of impressions received and of suggestions that I feel free to offer. My visit covered the days from Tuesday noon, October 23, to Saturday afternoon, October 27, 1917.

College Examinations

I was familiar, prior to my visit, with the very unusual record of excellent examination results that the school had uniformly scored in the tests of the College Entrance Examination Board; this record increased my desire to become acquainted with the administrative and teaching features of the school.

Physical Environment

Let me speak first of *general impressions* I received as to the external conditions of the school. I have noted its admirable physical environment, and the possibilities for its further development through the great tract of territory at its disposal. I have seen most of the buildings at present in use, and noted their condition. Most of the classrooms I found admirably adapted to their purpose, but I need not remind you that some of the conditions due to the long time that has elapsed since the buildings were first erected, call for urgent improvement. I am sure you realize that especially the recitation rooms in the basement of the main building should

give way as soon as possible to more advantageous rooms. The air in the basement is sometimes chilly, and some of the rooms are distinctly darker than classrooms should be. Of the dormitories I have only seen that in Bissell Hall. You realize of course that they are not modern in character. When a change is effected, considerable improvement would be required in the amount of plumbing; there should be a more liberal supply of toilets and shower-baths. I ought to say that I was most favorably impressed by the physical care devoted to the classrooms in the main building. They attracted my attention by their scrupulous cleanliness. Within an hour or two after the conclusion of the daily recitations I found the classrooms in admirable condition, a significant evidence of intelligent management.

School Administration

The mechanism of the *school administration* I found more perfect than anywhere else. The registry of teachers' assignments, the various means of recording pupils' attendance, the forms in which official warnings, general communications to parents and colleges, and official announcements of the school policy were given, the rules against the use of automobiles and in regard to spending money, seemed to me admirable. There was a general evidence of thoughtfulness in every relation of the school life. Thoroughness of school records involves accuracy of records on the part of the teacher. It facilitates survey by the principal, assures graduated control in the progress of the work. The arrangement of the study hall and the regulations in regard to its occupancy by the students also met my unqualified approval.

Regulations

I have studied with much interest the little pamphlet of *"Announcements and Regulations."* It is complete, exacting, without being harsh. It sums up what a boy in a large school community owes to the welfare of the community as a whole. The general principles enunciated

in the pamphlet determine the character of the school. The appeal to manliness, to a sense of honor and to good breeding is evidently effective, for the behaviour of the boys reveals this; they are at their ease without being rude. Highly commendable to my mind is the unqualified disapproval of secret societies. An excellent picture of the spirit that prevails, reveals itself in the school corridors and passageways. In the dining hall too, as well as in the Chapel, I noted the wholesome bearing of the boys. It is unaffected, free, sincere. There is a fund of good humor displayed in the manner in which the Juniors accept the superiority of the older classes. The idea of self-control is strikingly exemplified in the library, where perfect freedom is found combined with perfect order and respect for school property. This *respect for school property,* whether movable or fixed, has evidently been accepted by the pupils as good form. The desk-tops are in good condition; plaster casts, statuary and picture frames are free from injury. Evidently it is the desire of the boys to keep their school buildings as attractive as possible. This is worthy of comment, because it is in contrast with the marked violation of property that one sees in many other schools. It is in such matters that the spirit controlling a school manifests itself.

School Property

Art Reproductions

A word of comment, in passing, on the many admirable reproductions in photographs, casts, etc., that line the corridors and the classroom walls. As I am a great believer in visualization as a factor in education, these things appeal especially to me. I may later on say a word about further developments along this line; where a school management is ready to meet every justifiable request for illustrative material, it should be the part of each teacher to strengthen his department with these means of enhancing and illuminating his work. Bearing

in mind that superfluity in illustrative material may prove harmful, it is important to select with discrimination.

Selection of Teachers

Certain influences are brought to bear upon the pupils through precept and example. The regulations that do this, aim to make the boys self-respecting and obedient to wise direction. Accordingly the choice of conscientious, sincere men of character and convictions must be the first consideration in such a school organization. In a school like yours no teacher, however learned or scholarly, can be of service unless he can contribute distinctively to the efficiency of the school as a character-building organization. From my own observation I can congratulate you on the type of teachers you have selected for this purpose. They seem, one and all, completely devoted to this side of their vocational effort. They are evidently working with and for the boys.

Educational Policy

With all its importance, this administrative side represents only the background against which the school must grow. It is almost a truism that intellectual and moral advancement can be promoted conjointly. There is no antagonism between scholarship and character. You have therefore naturally set out to make your school educationally effective; and as all your boys aim at a college education, your ability to carry them successfully through the entrance examinations determines in the main the educational policy of the school. The very fact that you concentrate attention upon college entrance as a goal eliminates to a very considerable extent from consideration the problem of curriculum-construction. Your curricula are mainly determined by the combinations you must make to meet the requirements of various colleges. The questions, then, that figure so prominently in the organization of the public high school do not enter into your province. You are not called upon to study

the needs of students whose trend is not toward college. Such students are not likely to frequent your halls.

Methods of Teachers

With the definiteness of the task so clearly marked out, I was eager to observe the work of your corps of teachers, to become acquainted with their methods and their attitude toward their specific subject. It was clear from the first that here was a body of men working deliberately and with a definite theory toward a given end, men loyal to the Headmaster, because they believed in him and because he respected their separate individualities. A common object, common aims, seem to bind the members of the staff to concerted effort.

Number of Recitations Visited

During the five days spent at the school I visited thirty-six recitations and took part in three prolonged conferences with the whole corps of teachers. I tried to clarify my impression by interrogatories, in the course of which I had a chance to indicate such points of view as my experience in school work and in the study of educational theory had impressed on me. With several of the teachers I had private conferences, and carried on a prolonged discussion on mooted points in education with the Headmaster, in many of which I found we were in substantial accord. My visit gave me an opportunity to witness recitations of classes in the four years of Latin work, two years of Greek, four years of mathematics. I saw three stages of history work, two of science, three of English, three of German, three of French and one in argumentation. Realizing that my visits were made in the earlier part of the year, before the students had recovered from the lapse of knowledge that a prolonged vacation brings with it, I was not concerned in the technical results as revealed by the students. The latter part of the year would probably serve that purpose better. I was considering merely the method and technique of the teaching.

Teaching Technique

Many of your teachers have evolved through years of careful work a technique which is satisfactory to them, which they handle with considerable mastery and which inspires the pupils with confidence; the latter seem to feel that if they faithfully accept the guidance of their teachers this technique guarantees them the desired result, namely, success in their final examinations. But technique is a very comprehensive attainment, and no individual's technique, however skilfully elaborated, can be so complete as to make suggestions from other sources in the same field superfluous. Technique is, in fact, a summing up and interpretation of many devices that have been subjected to tests both practical and theoretical. They form, as it were, a body of accepted doctrine. To recognize and utilize valuable lines of procedure in the successive stages of work, to select from countless devices those peculiarly applicable to one's type of pupils, it is this that makes a teacher an artist in the treatment of his subject. Pupils, like grown people, appreciate variation in the method of approach; to repeat day after day with the same intonation a definite order of class instruction, an order which the pupils can almost anticipate, robs the classroom of inspiration. The element of surprise as contrasted with routine performance is a very vital one in our work; not that we are to search for paradoxes, for unconventional phrases, but that at least we discountenance deadly monotony, for our own good as well as that of our pupils. Imagine, for instance, a teacher handling for the twentieth time a class in Vergil; we know the things we *must* always give prominence to, the points we cannot afford to slight without impairing our pupils' work. But we teachers can liberate ourselves by pursuing a special quest on which, in addition to the general trend of the work, we concentrate in successive years our personal interest. In the given instance it may be the

influence of Vergil on several modern literatures, or the evidence of Vergil's fine dramatic sense, or of his appreciation of art works, or we may compare his sense of nationality with that of other poets. I have found that it is not difficult to attract some of the brighter pupils to join the teacher in such a quest, and their participation, even if somewhat crude and faulty, may be made valuable to them. I have seen a teacher of geometry start a whole class on the search for mathematical figures in buildings, façades, paintings, etchings, wall papers, etc., and it is amazing how persistently such inquiries will hold the attention of a group. In the fields of history, language and science, similar experiments could be carried out.

The Art of Questioning

A study of the art of questioning deserves the special attention of your teachers. It is an erroneous assumption that any teacher can ask effective and penetrating questions. Most teachers in schools and colleges have been indifferent to the important phases of this subject. Questions show marked differences, serve distinct purposes, secure varying results according to their form and intent. Experience has shown that a conscious appreciation of the various uses of questioning (and the character of the answer is intimately linked with the character of the question) adds a great deal to the teaching power of the individual. For a compact discussion of this question let me refer to Professor Romiett Stevens's doctor dissertation, "The Question as a Measure of Efficiency in Instruction," Columbia University Contributions to Education, New York, 1912.

Energy of Teachers

My attention was arrested throughout my visit by a common characteristic of your teachers which I personally rate very highly. Each teacher whom I saw at his work taught with full energy. The teachers *stood* as they taught. A teacher who stands and moves about freely from desk to blackboard and passes at times

through the aisles, concentrates upon himself the attention of his pupils; whereas the seated teacher, hidden behind an array of text-books, is not in any sense a controlling force in the classroom; he is in danger of becoming a seated Buddha, a thing of mystery. Our American schools, elementary and high, suffer greatly from the physical inactivity, in attitude and in voice, of our teachers, and the inattention prevalent in our classes is directly traceable to this fact. A seated teacher *may* secure undivided attention, but it is distinctly a more difficult task.

In varying degrees all of your teachers are forceful in their class work. There may be, very properly, a wide divergence as to the manner in which forcefulness finds expression, but live, active boys need active teachers; physical ineptitude may arouse temporarily their sympathy, but it does not command their attention. The promptness too with which the teacher moves rapidly from board to board in the correction of written work seems to react upon your boys. They are not as slow at the blackboard as I have seen them elsewhere, though I admit that the pace in blackboard work might without harm be somewhat accelerated. This matter of tempo, both in the oral and written recitation, is very vital to successful work. It is, I think, distinctly in the province of the teacher to accelerate the pupil's mental responses, as expressed orally or in writing. I would, of course, not have him rushed into a statement, but, on the other hand, dilatoriness in expression does not mean deliberation in thought. It is a recognized fact that pupils will always be at least as deliberate in their mental processes as their teacher sanctions. The atmosphere of a classroom should be keen, not somnolent.

Tempo in Recitation

Strain

I am sure that the life of every teacher in the school from the Headmaster down to the youngest member of

the Faculty is very strenuous, but I saw no evidence of strain. This, I think, is due to the careful provision made by the Trustees in all technical matters; I believe, furthermore, that your admirable location and the advantages of out-of-door life are the best antidote to nervous strain.

Speech of Pupils

Again it was very evident that without any striving for formal precision in language your teachers set the example of clear enunciation in their own performance. But in this particular matter our American boys need more than the good model set by their teachers. We cannot be too insistent on distinct, connected speech; the boys bring from indifferent homes and from their sports a hybrid language that is not conducive to refinement of speech. You call for good form in matters of conduct, of social relations; you have the opportunity, it seems to me, to emphasize the value of good form in straight, unaffected speech. I would not have affected or formal utterances on the part of a school boy; these would be as distasteful to me as the use of meaningless slang.

It is obvious that in all subjects of work, particularly in all language work, very distinct articulation should be in evidence. If the teacher's sound-production is not above criticism, the students cannot be made to realize its importance. And the teacher should be indefatigable in requiring precise sound-production. Slovenliness of pronunciation must not be allowed to creep in. The teacher's ear must never become dulled in this respect; it is an onerous but imperative task to be ever on the alert against lapses from perfect enunciation. Frequent reference to phonetic charts, such as your modern language teachers possess, must rouse pupils to clearer habits of enunciation, and special exercises in pronunciation requiring but a few minutes of a recitation period should be frequently instituted. In these exercises there

Class Exercises in Enunciation

should be complete and active participation of the whole class. It intensifies the teacher's capacity of discrimination, if he will move about in the classroom and detect, amidst the chorus of sound, divergences from accurate enunciation; just as, for instance, an orchestral conductor will instantly detect in his orchestra a departure from clear intonation on the part of a single member. As to the character of these exercises this may be stated: They should range from the clear reproduction of single sounds onward to that of single words, phrases and complete sentences, with the peculiar inflection or tonal swing that the sentence-unit requires. A sentence is not grasped as such until the student is able to intone it as a whole. It is in a sentence-unit that the character of a foreign language appears most drastically; the quality of the rising or falling inflection is a very important element in phonetic training. It can be made equally valuable in the teaching of our vernacular. No line of drama or poetry should be read without attention to the proper intonation of the sentence-unit. This involves frequency of reading by the pupils themselves. May I interject here an observation on a striking defect of most of our American schools, especially of our high schools? Our pupils do not read aloud in class with sufficient frequency. I confess, their reading is not as a rule enjoyable, but it becomes less so as we diminish their opportunity to be heard. The teacher usually appreciates the value of good reading, and furnishes the model, but he does not sufficiently stimulate his pupils to follow his example. Out of inadequate enunciation proper enunciation may be developed, but the opportunity must be afforded to the pupils. Prof. Hiram Corson of Cornell used to say that it was not necessary to investigate a pupil's understanding of a Shakespearean text; he required simply the reading of part of a great scene. Now this may be

Reading Aloud in American Schools

exaggerated, but good reading does furnish the clue to clear insight. A first-class reader of Shakespeare or Browning brings out the significance of a passage in the very act of reading.

Foreign Grammar

Readiness in the oral enunciation of foreign speech may also become a valuable adjunct in the study of foreign grammar. We can make the study of paradigms or verb formations more vital by using grammatical forms in their relation to a sentence. Schools in France and Germany have elaborated this scheme to great perfection, and pupils become very facile in reproducing a series of grammatical formations in very rapid utterance from given lists, prepared by the teacher, of nouns, verbs, adjectives, pronouns, etc., with which they are familiar. Such exercises I have frequently observed in the European schools, and the swiftness of performance at first completely dazed me. But the teacher told me that it was due to steady and repeated advances from slow beginnings to more rapid work.

As the method is not generally familiar, I introduce at this point such an exercise for purposes of illustration. Here, for instance, is a random list of verbs of various conjugations familiar to the student, of nouns, pronouns, adjectives, prepositions, adverbs.

Verbs	*Nouns*	*Pronouns*	*Adjectives*	*Adverbs and Prepositions*
rompre	garçon	je	vieux	jamais
prendre	chemin	tu	frais	toujours
perdre	leçon	il	pale	sur
finir	livre	nous	beau	dans
revenir	marchand	vous		sans
remplir	fleur	notre		de
porter	pain	ce		
casser	verre	cette		
acheter	champ	leur		
aimer	fille			
	ami			
	homme			

It is best to have such a list on the blackboard before the eyes of the whole class; let the pupil point to the material he selects. The exercise would run as follows:

1. Perdre, past indefinite, combined from the list with noun as subject and as object, an adjective to qualify the object. This sentence results: Les garçons ont perdu leurs beaux livres.

2. Combine revenir, past indefinite, with pronoun as subject, and noun governed by preposition. This results: Il est revenu sans ses leçons.

3. Prendre, present tense, first person plural with an object and prepositional phrase: Nous prenons les pâles fleurs dans le champ.

4. Perdre, past indefinite, noun as subject with adjective, noun as object and prepositional phrase, with this result: Le vieux marchand a perdu son pain sur le chemin.

5. Aimer, future, third singular, noun as subject, pronoun for object, adverb. Here is a sentence: Ce beau garçon nous aimera toujours.

6. Finir, interrogative, past indefinite, second singular, noun as object: As tu fini tes leçons?

7. Casser, present, negative, noun as subject and object: Les hommes ne cassent pas ces verres.

8. Prendre, interrogative, past indefinite, both subject and object to be nouns: Notre fille, a-t-elle pris ses fleurs?

9. Acheter, past indefinite, first plural, negative, noun as object with adjective, and prepositional phrase. This results: Nous n'avons pas acheté le pain frais de notre ami.

Such exercises can be multiplied and varied indefinitely; they promote rapidity of combination.

Grammatical Material

Whilst on the subject of grammatical training I cannot emphasize too strongly the value of well-chosen sentence and paragraph material in confirmation of grammatical principles. If we can banish the thread-

bare type-sentences that have done service for generations of pupils, and substitute for them fresh, unhackneyed matter, we can brighten the study of grammar and word-exercises, and make it an inspiring rather than a depressing performance. Recent text-books such as those of Lamont, Hitchcock, and Dr. Buehler will make my meaning clear for the study of English.

Text-Books

I approve very distinctly of the general attitude of your teachers toward the text-book. It is evident that they assign it its proper place in the economy of the school. It should never be the master, but a valuable servitor. The teacher's knowledge of his subject should enable him to use it critically, modifying it, enlarging upon it, disputing, if need be, its assertions. In almost all of our American schools the text-book is allowed to become a dictator, because many of our teachers have no other source of inspiration. For that reason I should urge still more complete emancipation from the text-book, especially in language work. With the same material that the text-book furnishes it should not be difficult to frame parallel phrases and sentences in new combinations. We expect our pupils to retain control of words, facts, principles previously communicated to them; surely we teachers ought to possess the complete mastery of this same material which has been at some time presented to our pupils; we ought to be able to draw upon it without considerable effort. It is an admirable training for ourselves and our pupils; it develops power and encourages rapid and incisive work when you can say to a class—"By actual survey you have had all but ten of the words that occur in this new lesson. I shall give you these new words. You are now practically masters of the advanced lesson." Some of our editors have cleverly utilized this plan by the use of heavy-leaded type for unknown words. Difficulties seem to disappear where

Control of Material

familiarity may be assumed. In modern language work it seems to me particularly important that the teacher should know every point made in previous lessons. He cannot exact specific knowledge without this vital control of the underlying material. It is of distinct significance to be able to tell a pupil—"You had just such a word when you were reading . . .; you will recall the connection." Cross-references of this kind are of great value.

Co-ordination

There is involved here another point which is of particular moment for your modern language departments. There should be perfect co-ordination as to all exercise books selected for the classes. The selection should be made by the several teachers in conference, should be carefully weighed and then adhered to. A departure from a standard work should not be undertaken except for the gravest reasons; these ought to be formulated and discussed before action is taken. Two grammars used with two different classes involve, as a rule, waste of effort for teacher and pupils. There is almost sure to be confusion in terminology, and gaps are apt to be left which can never be filled. To illustrate this by a concrete example. I have in mind the difficulties your boys will encounter in their advanced work in German. They will probably use for their work Bagster Collins's Series, which is generally recognized as the most valuable work we have at the moment on the subject of German grammar exercises. They have hitherto used a book by Wesselhoeft which is not its equal in merit. They might as well have begun their elementary German work with Bagster Collins. Now in large public high schools it may be impossible to co-ordinate the preferences of a number of teachers; at a preparatory school like yours such a question should be settled by previous agreement. That progressive teachers are desirous to test the value

of a new and apparently meritorious book is distinctly commendable, but the influence on the work of the pupils is a consideration of no small importance.

Let me now pass rapidly in review the impressions I gained in the teaching of the various subjects. I shall not follow any definite plan of comment, taking my cue from the points that enlisted my special attention; nor shall I comment upon all the subjects taught in your curriculum. What is here offered is rather a running commentary of thoughts suggested by your classes. You will please bear this in mind by way of explaining the definite manner of approach in the several subjects. The criticisms, if criticisms they can be called, will be now specific, now more comprehensive and general. Inevitably, suggestions will force themselves into the discussion of the various subjects, but in the main, there will be a group of suggestions massed in the latter part of the report.

Latin and Greek

It was natural that the teaching of the subjects longest in our secondary curriculum would suggest few, if any, questions to a careful observer. There has been a continuous and valuable tradition centering about the teaching of Latin and Greek, and in your classrooms the combination of sound scholarship, with careful attention to strong work in the fundamentals, is everywhere in evidence. Whilst there is a lack of time for extended excursions into the field of Greek and Roman life and antiquities, the familiarity of your teachers with these subjects enables them to introduce, incidentally, much of the valuable information that knowledge of the classics can bring into the life of the cultivated man of today.

Mathematics

The mathematical work, too, is definite, incisive, accurate; pupils are not permitted to slur over difficulties. There are a few questions that I would raise here. First: What do your mathematical masters think of treating

problem work in algebra in such a way that they concentrate the efforts of their pupils on securing the statement of equations without in every case working these out to final solutions? This course should not become a general practice, but it would indicate to the student the overmastering importance of translating the language of the problem into equational form. In France, the boys, with open books, proceed to develop in problem after problem the necessary equations, then stop. About one in every three sets of equations is worked out to its final result. They consider the working out of the equations a distinct process, apart from the expression of the language of the problem in algebraic language.

Secondly: In solid geometry do your teachers find the use of glass or pasteboard models valuable? Many boys, I believe, lack, in the early stages of study, the power of visualizing the solid, and especially of recognizing its projection on to a plane surface. Whilst I should not continuously use these aids, I believe they add materially to the effectiveness of the work. The use of these models will, of course, be discontinued after every pupil in the class recognizes how the representation of the solid figure upon the printed page has been effected.

Thirdly: You devote, in the Lower Middle Class, one hour per week to the beginning of demonstrational geometry. I question seriously whether you gain enough to make it worth while; whether, in fact, it might not be well, omitting all attempt at demonstration, to do much elementary work in construction, mensuration, geometrical draftmanship and in inventional geometry. Much ground can be covered with reasonable rapidity along this line; such work has nothing of the formal logical character of the later study, and it would impress the pupils more than they are now apt to recognize, with the fact that when we lay before them the geometric theorems, we

are teaching them, largely, logic. I believe that if such a preliminary course precedes, the pupils approach logical geometry in quite a new attitude of mind.

All the other subjects of the curriculum lack the tradition and sanction which centuries of teaching have secured for the classics and mathematics; they are one and all newer subjects in our curricula. On many of the questions our teachers throughout the country have not been able to reach general accord; there is, consequently, room for various doubts. In a sense it may be stated that in some of these subjects success is distinctly affected by our lack of definiteness in the formulation of our aims. In a subject like history, it is most im- **History**
portant that the teacher should discourage vague statements. Where students are asked to prepare on a special subject, it might be well to make a common assignment to several students, who are thus put in a position to control each others' accuracy. It is valuable, too, to encourage reference to several text-books of about the same degree of difficulty; and the teacher can lead the pupils to see the possibility of various interpretations of the same recorded facts; such variations not necessarily indicating truthfulness or untruthfulness of the particular editor, but showing how the same facts look different as viewed from different angles. Thus it is valuable to call the attention of the students to the Protestant and the Catholic views of the Reformation, as different authors present them; to the Tory and the Patriotic point of view in our Revolutionary war; to the conflicting estimates of our great leaders, like Washington, Jefferson, Lincoln. It is well to show pupils how historical statements have been evolved from contemporary records. The little pamphlets of "Translations and Documents," published by the University of Pennsylvania some years ago, furnish most stimulating material to bright boys. It is

well at times to let the pupils see how a summary view of a great historical period may be made up from a great mass of material that is not usually conceived as historical. Such a body of material, for instance, is contained in Volume I of Herbert Spencer's "Descriptive Sociology," which furnishes the material for English history.

Collateral Material to History

Most commendable is the zeal of your teachers in securing, through originals or facsimiles, material collateral to the study of history. Its effect on the pupil is unquestionably good. Your map material is very good as far as it goes, but admits of further expansion.

The Recitation in History

The nature of the recitation in history work is a matter of particular importance. Teachers understand that, even if they attempt to adhere to the pages assigned for the lesson, they cannot possibly exhaust their contents; there must be selection, judgment; we must constantly consider what is most worth while in a lesson. The lesson should be grasped as a comprehensive whole, not as a series of unrelated details. There are, in every lesson, eminences and lowlands. Where shall we throw our emphasis, and how shall we convey to our pupils the power to select the things of really vital importance? In conducting a recitation, variation in our method is particularly important. You may begin it at the beginning of the assignment, or in the middle, or work back from the end. Thus, if a lesson were devoted to the causes that led up to the French Revolution, it would be quite as correct to begin with the outbreak of the French Revolution, and work backward through its several manifestations to the circumstances that led up to it. When pupils have acquired correct habits of lesson preparation (and the teacher will be the main agent in effecting this), then you may even on occasion condense into the very shortest time of the recitation a concise summary of a whole chapter, and proceed to elaborate material that has either

not been touched by the text-book or not brought out with sufficient clearness.

The teacher, when calling for information from the boys, should discriminate carefully between general descriptions of historical movements and tendencies, and such matters, on the other hand, that call for very specific, accurate statements. In the latter case he should not allow vague approximations, should set an example by precision in his own statements. He would do well to avoid reference to specific facts, unless absolutely sure. Above all let us not assent to a pupil's statement which is no more than a vague guess; we can do much to inculcate good habits in reading and reporting on one's reading. Our national habit of getting near a subject rather than into the heart of it is thoroughly reprehensible. We can do much to modify this fault.

Geography

I find that, unfortunately, systematic instruction in geography does not figure on your program. Therefore it becomes the history teacher's province to establish relations. Such work as Ellen Semple has done for American history, showing the relations between our historical development and the geographical conditions of the country, is profoundly interesting to boys. Books on economic development bring out similar relationships. An occasional reference to the great work of Ellen Semple—"The Influence of Geographical Environment"—is most illuminating. A boy who has once been led to look into this work is not likely to miss its significance. In including some geographical knowledge in the teaching of history, it would be necessary in your school to acquire a number of physical wall-maps, maps showing the limits of various productions, of ethnological distribution, of rainfall, of oceanic conditions. For the United States history, in particular, it would not be difficult to secure some of the large government maps, or, through the aid

of your congressman, a liberal supply of the small census maps of the United States, which bear on such matters as the distribution of population, illiteracy, natural resources, means of communication, etc. Perhaps it might be well to assign a special period to the teaching of geography. The time assignment in the French and German schools, averaging three hours per week throughout the entire course to the two subjects in combination, leaves it to the teacher to distribute emphasis, to omit in some weeks a specific lesson in geography, and then again devote several periods to this subject in preparation for the discussion of a new historical epoch.

Science

At the general conference between myself and the various teachers of the staff I defined my position with regard to the kind of science teaching that I should advocate for college entrance. At present such considerations are, however, academic, until, under pressure from many competent secondary teachers, the colleges will modify the character of their requirements. Such modification is undoubtedly under way even now. Meanwhile it is possible to endorse thoroughly the character of your laboratory work in physics. It is well planned; it seems to appeal to the student body, and its final results have been satisfactory. Unquestionably, when expansion in your school equipment affords you the opportunity, there should be one other alternative science subject, and such a subject should, by preference, be chemistry, for chemistry is rapidly becoming the central subject in scientific development. Its value, both for industrial application and for purely biological and mathematical work, is growing more significant.

The subject of general science, or introduction to general science, which is offered in the school to Junior members, calls for specific comment. Confessedly it is a very difficult subject to handle. Nothing like agree-

ment in the matter has been attained anywhere. As it is not one of the specific subjects on which the student would pass an examination, it ought to be possible to develop a treatment of it which will be based purely on its substantial value to the student. It should arouse their interest in the phenomena that surround them, and should stimulate their legitimate curiosity. It is rather in the doors it opens than in the specific facts communicated that its interest should lie. To enable the pupils to see the interrelation between the various groups of scientific inquiry seems to me one of the most valuable features of the course, and the teacher who himself can draw for his illustrations on physics, chemistry, biology, geology, geography, is likely to satisfy that first curiosity which it is the business of an introduction to science to further. I realize that such a combination is not easily attained. Huxley, in his great laboratory at Cambridge, used to turn out men who felt these close relationships, and could communicate them to others. Our college courses seem to tend directly the other way; they discourage this attention to interrelations; but if a teacher will once admit the fundamental principle, he will soon recognize, in the awakening interest of his pupils, the value of such a course. This matter has been referred to because in most of the teaching of general science the attempt is undertaken to familiarize the students at too early an age with concepts that are distinctly beyond them. There is great danger of carrying them beyond their depth. I am quite sure that pupils in these earlier years cannot comprehend electrons; I doubt whether they really grasp molecules and atoms; I am sure that the Tables of Elements by the Russian, Mendeleieff, mean nothing to the students. They are far too intricate. It is distinctly the wrong approach for elementary secondary school students in chemistry.

This is not stated in criticism of specific class work. It is the method that prevails throughout our American schools in an introductory general science course; but it does not meet our requirements.

In planning a series of lessons in general science, one ought to make sure how much can be actually accomplished in a single recitation, and determine at the close of a recitation whether the scheme has been accomplished. It is particularly necessary in such a subject that the scope of each specific lesson should be definitely fixed in the teacher's mind. Younger teachers would do well to reduce their plan to definite statement in writing, to control the successive stages in their program. They will thus soon estimate whether they have over- or underestimated their capacity to accomplish a specific amount. If they fall far short of what they started out to do, then either their topic is too big or they have lost themselves in digressions. If possible there should be planned the time for a brief summary of progress at the close of each recitation, even though it take but a minute or two; if we allow the pupils to make it, we can see what the nature of the advance has been.

The Lecture Method

Both in science and in history there is imminent danger that the teacher will speak too much. The lecture method pure and simple is not applicable to schools; it is not even good in colleges; but a lecture method coupled with constant control by means of crucial questions addressed promiscuously to the class and supplemented by cross-references is quite another matter. In our demands on our pupils a careful description of an experiment, whether oral or written, is a valuable exercise in logical progression of thought, in observation and in concise recording of the several stages of progress. Without adhering to any set form, one can evolve a model of good description which pupils may follow. The test of an

intelligent restatement of an experiment lies in this: Can a person who is not especially familiar with the subject get from the description a picture of the procedure? Otherwise it is well to try again.

French and German

In both the modern languages there is necessary, for the preparation of your students, a great deal of grammatical drill. Now grammatical drill does not involve at every moment deliberative thought; with a fundamental grammatical form once secured, a habit of fairly rapid recitation can be organized. I believe it is possible to stimulate increase in the speed of the pupils' answers; as indicated before, the habit of prompt and concerted thinking can be developed by preparing blackboard lists and by the use of the pointer.

To emphasize the importance of phonetic accuracy by a detailed statement of the phonetic peculiarities of a language is eminently sound. The mimeographed sheets which I have seen employed in your courses, touching upon syllable division, silent letters, vowel and consonant sounds, make the students realize the fundamental importance of these matters. In the modern language work, as well as in other subjects, the device of cards which is in use among the teachers is excellent. The cards are very good, neat, and the use of them is deliberately pursued in the various exercises. This system admits of further development; it economizes time and is a supple scheme for the testing both of new and of previous work. I may refer again to the particular value of active, incisive class work in which the precise articulation of the teacher sets a valuable model. Approval is due also to the habit of connecting foreign enunciation with singing, with the aid of the victrola; it is well known that professional singers learn in and through musical utterance to pronounce German, French and Italian to perfection,

though they may not be able to speak a word in those languages.

In our desire to cover considerable ground in translation there lies a certain danger, if we curtail the pupils' time for reading long passages in the foreign tongue; a foreign language recitation, with a minimum of utterance in the foreign tongue by the pupil, is undesirable.

Texts Used

As the choice of reading material can be made from a fairly large list, it is well to urge that wherever possible the least technical material within a certain group of books shall be employed. Our lists of selections have on the whole been made with little judgment, and a more specific classification and evaluation of our texts is imperatively necessary. Our procedure has been a haphazard, ill-judged one; meanwhile with no definite authority to support him, it is the business of every teacher to assure himself in advance of the appropriateness of a book for his pupils, not to take a book on a publisher's advice.* A simpler book is always likely to prove the more effective one in foreign language acquisition. A further factor in determining our choice is that we ought to select material that bears on the life and the habits of the people whose language we are studying. Thus, for instance, I should on that score find objectionable, in our secondary school classes of French, the study of Voltaire's history of Charles the 12th of Sweden, or of Lavisse, "Le Grand Frederic," or of Boissier, "Ciceron et ses Amis"; admirable books all of these for mature readers, but for our pupils we ought to keep the point just mentioned in view.

Both French and German teachers use, as far as time allows, some features of the Direct Method, which is supposed to lead more immediately to the conversational

*For a fuller discussion of this subject, see "The Desirability of a Syllabus of French and German Texts," by Julius Sachs, *Modern Language Journal*, January, 1918.

use of the language. It affords opportunity for vitalizing the work, makes their lists more immediately useful; but its devices may become mechanical. For instance, it is a governing principle in the Direct Method to have foreign language forms developed in complete sentences; thus, not "Gebe ich," but "Gebe ich Geld;" but why conjugate a whole tense throughout without once changing the object, e.g., "Gebe ich Geld, gibst du Geld, gibt er Geld"? This strikes me as a misapplication of the Direct Method. In like manner I doubt whether it is of much service to the pupils to hear too frequent repetition of the same phrases: "Wer hat noch nicht gelesen?" "Machen Sie die Bücher zu." Why not let the pupils realize through successive modifications in our sentences, in how many different ways these thoughts can be expressed?

English

It was evident to me that the teachers of English realize the gravity of their problems; the very fact that the pupils are supposed to be on terms of perfect familiarity with the vernacular makes their task a peculiarly difficult one. Nowhere else does finer estimate of values play so great a rôle. In the case of foreign languages we are apt to be satisfied, if the pupil's knowledge of forms and his control of a sentence are correct; but in the vernacular we must strive for something more, for quality; the material in hand should be used discriminatingly and to best advantage. During my visits to the several English classes certain thoughts kept recurring to me which your English teachers would, I believe, endorse.

English Composition

Composition work should never be separated from the teaching of literature; no teacher should teach composition exclusively, nor literature exclusively. I consider descriptive writing the fundamental feature in the development of a boy's composition work. It may set in almost immediately, but it should not be discarded too early. It is well for the pupils to advance from very simple de-

scriptive writing to more comprehensive and elaborated performance. Good descriptive work depends on keen observation. I would, therefore, urge the employment, as a basis for descriptive writing, of the illustrative material that we have previously discussed in connection with the history work. The use of several illustrative charts at one and the same time may assist in furthering the intelligent employment of comparison. Thus, if we placed within sight of the whole class a colored chart representing life in the interior of a mediæval castle, and another, the interior of a burgher's home in the sixteenth century, how easy it would be to suggest as a theme the changes in home life between the tenth and the sixteenth centuries. As many of these illustrated charts are rich in detail which arouses the attention of the pupils, such exercises are excellent for the pupils.

Again, place side by side a view of the interior of an Egyptian temple and of a Christian cathedral, and raise the question: "What bearing have these interiors upon the kind of religious worship possible in each?" On this matter it is hardly necessary to dilate further. As to some of the special problems for the English teacher: How are we to stimulate our boys to speak more and in connected form? to what degree shall we correct poor habits of speech? how can we insensibly promote better choice of language? how can we create a certain zest for finished presentation? In this connection I would recommend Dr. Brown's book, "How the French Boy Learns to Write" (published by the Harvard University Press). It is a careful study of the method employed in France with great success. *All* French boys write well; by comparison with our boys, superlatively well. The French have made an intensive study of this matter, and the success that they have attained is due, not to innate ability, but to outright deliberate pursuance of a

Oral Exercises

clearly conceived plan. Oral work is receiving now in our best schools more recognition than formerly. For such work we may use again at the outset actual visualization; later on the pupils may advance to mental visualization.

Finally, I question the value of a special treatise on punctuation. I should fear that overemphasis on this subject is likely to disturb the perspective of the pupil. If we insist on a few fundamental principles and apply them reasonably, we shall probably accomplish as much as by the use of a special little handbook. Punctuation, as I take it, is simply an external aid to facilitate clear comprehension. We ought to lessen the number of technicalities; the law of common sense should mainly govern.

Punctuation

General Suggestions and Recommendations.

Would it not be well to evolve a definite scheme of history teaching covering four years of four hours per week, and fix, in conference, the sequence of such work? If the same order of presenting the several blocks of history were once fixed by the school, and the appropriate text-books for every stage of advancement determined, a much higher degree of effective work could be attained. In connection with the illustrative material appropriate for historical work it would be well to consult special catalogues; the French and Germans print copious catalogues (Lehrmittel-Katalog). In these catalogues, which in some cases cover five or six hundred pages, there are enumerated and described countless maps, illustrative charts, interpretative texts to these charts, models, etc. The material is so abundant that wise deliberation must be exercised in determining a choice. The illustrative material consists either of photographic reproductions of extant buildings, of portraits, of actual landscape vistas, or else (which is more valuable) material which has been

Work in History

prepared for special purposes of instruction by the joint effort of an expert teacher and a competent artist, the teacher indicating what facts he wishes to see embodied in the picture, the artist giving them effective artistic expression. It ought to be said that even where an abundance of material is available in a school, the wisdom of the individual teacher should appear in his mode of handling it and of keeping it serviceable for use. There should be careful cataloguing of all available material, and its use by teachers of other subjects should be stimulated in every way possible.

Daily Records

The records made by each teacher at the close of every recitation should indicate briefly the work covered in a given recitation and the lesson assignment for the next day. Such a record should be perfectly clear as to text-book, page, etc.; if a previous assignment proved too long, or a lesson is to be repeated, the fact should be stated. Such memoranda are useful in many ways; they prevent over-assignment, they indicate a teacher's grasp of what he can accomplish in a given period. As no teacher is likely to handle in your school more than four classes a day, a specially prepared pad, ten by five inches, would suffice, with space for the date and the teacher's name at the top. A comparison or correlation of the assignments in the various subjects for a given day indicates the amount of work required outside of the recitation; if memory work is required in place of written work, it should be so stated. The principal is enabled to control all the assignments; this is of equal value to each teacher and to the school organization as a whole. These records, collected for the individual teachers at the close of the term, should be kept for several years. It will enable the principal to watch the rate of advance in the same subject with the same class in successive years. It is not necessary that the rate should be identical; different classes

require different rates of advance. Even an omission at a given point is not a serious matter. One particular value of these records is to guide a new teacher in work that has been carried on by a former teacher, or to guide a teacher with an advanced class with regard to the work accomplished by the class in previous years. Such records may very properly form the basis of discussion in teachers' gatherings. The best teacher may err in the matter of too great requirement. There will be less occasion for the excuse that one frequently hears, "I did not realize how long the lesson was." The written record, subject to general investigation, impresses upon teachers the need of caution in lesson assignment; young teachers find it difficult to get a measure of the work they ought to assign. On the other hand, too meager a performance during a given period should at once enlist the attention of the principal. An additional practical advantage of these records is that when pupils are subjected to a prolonged absence or enter the school several weeks after its beginning, it is an easy matter for a secretary to compile, from these records, a statement of the ground covered in various subjects. It materially lessens the burden on the individual teacher.

Written Work

Several questions come to my mind. As to the quantity of written performance in the various classes of the school, has there been any definite determination of its growing value? Do not errors repeat themselves, become, as it were, ingrained? What method is resorted to, to reduce or eliminate errors? A very serious factor (though it did not come under my notice in your classrooms) is the inability of the teacher at times to correct all errors at the blackboard. In such a case the error which is allowed to stand uncorrected, operates as a serious blemish. The fact that it is not corrected is confusing to the uncertain mind of the boy. He is never too

certain in his judgment, and non-removal of the error may confirm him in his misconception.

To what degree are the written exercises of the pupils preserved, or are all short tests destroyed? In composition work, particularly, early performances in a given year should be dated and kept for comparison with later ones.

Teachers' Meeting Room

It occurred to me that in the teachers' meeting room, which would eventually have to be enlarged for the purpose, a ready reference library would prove of great service. A carefully chosen collection of two or three hundred books would prove invaluable: some of the leading educational journals might be profitably included in the files of such a special library. It happens very frequently that, with only a few minutes at his disposal, a teacher wishes to verify a point that is likely to come up for discussion in his class, and it is then that such a collection of books is of distinct value.

Extension of the Course

From a survey of the work undertaken in your school, and conferences with individual teachers, I am convinced that expansion of your four-year course to a five-year course would clearly enhance the efficiency of the school. It should be understood that there should be no attempt to carry the pupils in the subjects required for college entrance beyond the present requirements; but a five-year course would afford several distinct advantages. Your teachers could develop their several subjects with more deliberation, with more attention at the outset to the inculcation of correct methods of study; there would be less hesitancy in regard to occasional excursions from the rigid college requirements, and finally such an expansion would enable you to introduce, for the benefit of your pupils, subject-matter not involved in future college examinations, but serviceable to the intellectual growth of your boys. I suggest this scheme particularly because

with this addition of an earlier year to your course you would be in line with a trend in our secondary-school system which is destined to become general; I am convinced that within a decade the four-year secondary-school course will be the exception in this country.

Responsibilities of a Fitting School

I come finally and at this point to a question which may not be of immediate practical concern to your school, but the consideration of which you cannot, it seems to me, escape. Should it not be the privilege of a great fitting school to direct its methods to something beyond success in meeting college entrance requirements? Could it not organize a type of secondary instruction that would *incidentally* satisfy all college requirements, and at the same time illustrate a broad conception of educational advancement? I am firmly committed to the belief that the awakening of general intellectual curiosity and interest is one of the great privileges we enjoy in teaching pupils of adolescent age. The secondary school is the place where this awakening should be effected, and it can be coupled with successful performance of the college requirements. I do not hesitate to say that the best teachers in the secondary schools are sufficiently competent to reconcile these two tendencies, and if the influence of the colleges should prove detrimental to a sound educational development, it is for the colleges, under pressure of the schools, to abandon unreasonable demands. I have the conviction that the colleges could not, and would not, constitute themselves barriers to sound educational progress, if the schools jointly formulated an intelligent conception of educational theory. This does not involve any overthrow of college requirements; it would mean that the colleges substitute everywhere qualitative for quantitative standards; that they dwell less upon adherence to *formal* accuracy and more upon the evidence of intellectual vigor and intellectual response.

The exactness of your work would not suffer, if the individual teachers were afforded by the colleges the scope to move freely outside the limits of the designated work. Even though but a few pupils in every group were thus stimulated to responsive thought, were prompted to an active spirit of inquiry, the change would be fully warranted. Tastes and predilections take their origin in various impulses, and it is certainly the secondary school age at which this budding desire for knowledge of a specific kind first manifests itself. A teacher's avocational interests have in more than one case started a loyal younger friend on an interesting life study. This suggestion is made quite as much in behalf of the teacher as of his class. It is a recognized fact that the "cribb'd and cabin'd" tendency of our college requirements threatens to imprison the minds of some of our most active teachers in a strait-jacket, unless he finds some outlet in a variation from definite prescription.

All of which is respectfully submitted.

JULIUS SACHS.

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